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SOME PERSPECTIVES ON GROWTH AND TAX REVOLTS

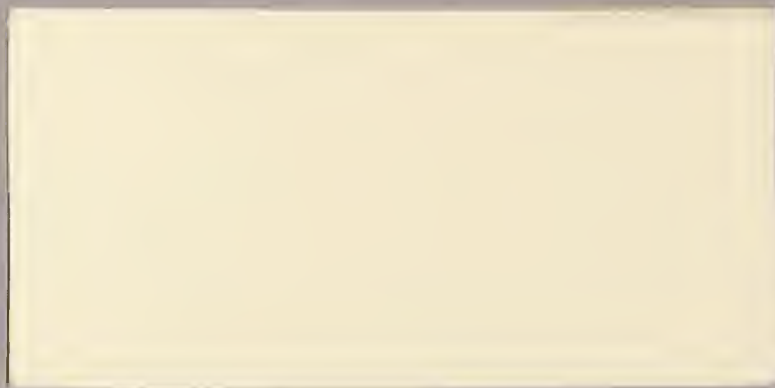
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LOCAL GOVERNMENT EMPLOYMENT TRENDS:
SOME PERSPECTIVES ON GROWTH AND TAX REVOLTS

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ABSTRACT

Local government employment relative to population increased about 70 percent during 1957-1977. The income "elasticity" for governmental employment was 1.56, and the "elasticity" for the public wage bill was 2.25 for the period. Average real pay per governmental employee decreased for each year from 1973 to 1977.

The government employment-population ratio was higher and increased faster in metropolitan areas than in nonmetropolitan areas during 1957-1972. Employment relative to real income was lower in metropolitan areas. However, the metropolitan ratio increased 8 percent while the nonmetropolitan employment-income ratio fell 11 percent.

Key words: Employment, Government, Local Government, Labor, Community Services.

Local Government Employment Trends: Some Perspectives on Growth and Tax Revolts

Decision makers in the public sector are faced with a changing environment. Public pressure to hold down expenditures is increasing, either directly through referenda restricting revenues such as California's Proposition 13 or indirectly by the psychological pressures created on governmental bodies by the success of such referenda. Simultaneously, governments have grown through the perceived demand for public goods and services and the regulatory activities created, at least in part, from living in an increasingly complex society.¹ While governments at all levels are universally viewed as the tax collector, they are not as universally viewed as providers of services. One input in the production of services is labor. The role of governments as a major employer has been frequently ignored although increased employee militancy and "limit revenue-expenditures" referenda have brought the subject into the limelight.

National and local government employment trends are examined in this paper in conjunction with public payrolls and personal disposable income. While there is no attempt to develop a theoretical determination of how much government employment is optimal, some tentative questions are raised as to the

¹While there are legitimate differences of opinion as to whether or not there is too much regulation, this paper is not the place to address such issues.

rationality behind the "limit revenues-expenditures" referenda. First, the relative importance of and trends in public employment are examined. Then, differences between metropolitan and non-metropolitan employment trends and variations in employment by degree of urbanization are examined.

Public Employment

The public sector, a major employer, has increased in importance through time. Federal, State, and local governments employed about 15.2 million persons in 1977, exceeded only by all manufacturing (durable and nondurable) employment, total trade (wholesale and retail) employment, and, for the first time, service employment (11). Government employment increased from 14.4 percent to 18.5 percent of total nonagricultural employment between 1957 and 1977.

Governmental employment increased 91 percent between 1957 and 1977. Local government full- and part-time employment increased from 4.2 million to 9.1 million, a growth of 111 percent, while State government employment increased 155 percent from 1.4 million to 3.5 million.² In contrast, Federal civilian employment inside the United States increased 22 percent. The population to be served also increased during the period but not as fast as State and local government employment. Between 1957 and 1977, local government employment per 10,000 population increased from 247 to 420, a 70 percent growth. State government increased from 79 to 160 employees per 10,000

²Percentage changes computed from (5, 7, 8) before rounding.

population while Federal civilian employment inside the United States fell from 130 per 10,000 in 1957 to 126 per 10,000 population in 1977.³ The public sector is a major and increasingly important source of employment in the United States with both the relative and absolute growth concentrated in State and local government. This paper focuses on local government employment, almost 60 percent of all governmental employment in 1977.

Local Government Employment

Local government employment expanded rapidly during the 1960s and 1970s, both absolutely and relative to the population served. As population represents those receiving the aggregate mix of public services and as public employees are a major input into the production of public services at the local level⁴, either more services or a different mix of services were available in 1977 than existed in 1957. This assumes governmental productivity did not decrease enough to offset the increased employment-population ratio.

Local government employment increasing faster than population is not necessarily an inherent evil. If public services are a normal good, the demand for such goods would increase in response to an

³Public employment can also be examined on the basis of "full-time equivalent" (FTE) employment. FTE's weight part-time personnel to full-time personnel on the basis of payroll but FTE's were not available for Federal employment. While the FTE employment-population numbers for State and local governments are smaller, the change over time remained approximately the same.

⁴While employees are only one input in the production of public services, public services are generally labor intensive. In 1976-77, expenditures for personal services of local governments were 53 percent of all expenditures other than intergovernmental expenditures (6).

increase in income. Real personal income per capita is a measure of the ability of the population to "buy" all goods and services including public services and, therefore represents the derived demand for public employees. For illustrative purposes, indices (1967=100) of full-time equivalent (FTE) employment, real October payroll, real October pay per FTE, and real disposable income per capita from 1957-77 are presented in Table 1. Both FTE employment and payroll grew faster than per capita income between 1957 and 1977. The ratio of the percentage change in employment to the percentage change in per capita income was 1.56. This crude arc "income elasticity" for local government employment indicates public services are a normal good although there is no true "market" for public services.⁵

The income "elasticity" for local government October real payroll was 2.25 indicating that the public wage bill would classify public services with luxury goods. The relatively high income "elasticities" with employment and wages may provide some insight into the taxpayers revolts of 1978. With real personal income increasing during the 1960s and early 1970s, expansions in public employment and public wage bills were of little consequence. Inflation reduced real per capita disposable income in 1974, and it did not return to the 1973 level until 1976 (Table 1). Consumers can obtain substitutes for or postpone purchases of consumer goods when real income falls. However, individuals can not adjust

⁵The "elasticity" was computed by averaging the data for the first three years (1957-59) and the final three years (1975-77) to minimize aberrations. Since elasticities are generally considered to represent marginal change, it should be noted that these elasticities are for the entire period.

Table 1: Indices of selected local government employment characteristics and per capita income, United States, 1957-1977.

Year	Full-time Equivalent ^a			Real Per Capita Disposable Income ^d
	Employment ^b	Real Payroll ^c	Real Average Pay ^c	
 (1967=100)			
1957	66.0	47.4	71.8	78.0
1958	71.0	53.5	75.3	77.2
1959	73.3	57.4	78.2	79.3
1960	76.5	61.3	80.1	79.6
1961	80.1	65.9	82.3	80.5
1962	81.3	70.5	86.7	82.9
1963	85.8	75.2	87.7	84.7
1964	89.8	80.9	90.1	89.5
1965	94.1	86.9	92.3	93.8
1966	98.0	93.4	95.4	97.5
1967	100.0	100.0	100.0	100.0
1968	105.2	107.9	102.6	102.6
1969	108.6	112.0	103.2	103.4
1970	113.0	118.8	105.1	105.1
1971	116.6	123.1	105.6	108.0
1972	122.5	136.2	111.2	111.8
1973	127.6	141.6	110.9	117.5
1974	130.6	139.0	106.4	114.8
1975	133.5	139.5	104.5	115.2
1976	134.5	140.9	104.8	117.8
1977	138.0	143.2	103.8	120.8

a. Part-time personnel converted to full-time equivalent and added to full-time employees.

b. Computed from (8). c. Computed from (8, 9, 10).

d. Computed from (9, 10).

consumption from the menu of public services provided and perceive direct compensation for the adjustment. Therefore, the option for taxpayers was to collectively reduce consumption and/or the composite price of services (taxes paid) through avenues such as Proposition 13.

Local government wage bill and employment elasticities tell only part of the story however. Real October payroll of local governments decreased in 1974, and the 1973 real wage bill was not exceeded again until 1977 (Table 1). However, FTE employment grew 8 percent between 1973 and 1977 indicating average October real pay per FTE employee was decreasing. Average real pay actually started to decrease in 1972, one year before the decrease in the public wage bill or per capita income (Table 1). In contrast to per capita income, real local government pay per employee continued to decrease. This occurred after five years of surprising consistency with the changes in real per capita income. It would appear local governments tightened their budgetary belts on personnel before the advent of taxpayers revolts. With the price of public employees decreasing after 1972, the increase in FTE, and with real per capita income regaining its 1973 level one year before the real public wage bill regained its 1973 level, the taxpayers' revolts of 1977-78 would seem to be inconsistent or at least surfacing as an after-the-fact issue.⁶ The relatively high income "elasticity for public wages

⁶Titles II and VI of the Comprehensive Employment and Training Act (CETA) of 1973, as amended, provides State and local governments funds to hire the unemployed for public service jobs. These public

combined with the realization that increasing real per capita income is not guaranteed could possibly generate such reaction however. Maybe the wrong mix of public services were being offered, or perhaps the supply of public services exceeded the demand despite a decrease in the composite unit price of public goods. A price decrease assumes the price of labor decrease was reflected in unit pricing and nonlabor price increases did not offset the decrease in public wages.

National aggregates represent a composite of 80,000 local government units. As the method of delivering services and the mix of services delivered may vary by population size, there is little reason to believe that experiences in areas with different population levels mirror national aggregates. Students of the public sector are also frequently interested in such size questions. Therefore, changes in employment relative to population and real personal income are

workers and their pay would be included in Table 1. The effect of CETA on the indices of Table 1 depends upon the average wage of such employees. There would be minimal effect if CETA workers received wages similar to regular employees. If CETA workers were paid at a lower wage rate than regular employees, the average wage of all employees would be lower. This might account for part of the decreasing average real pay of local governmental employees during the latter 1970s as indicated in Table 1.

An approximation of CETA's effect can be made by netting out CETA employees and their pay for 1976 and 1977 to determine what the average pay index would have been for non-CETA employees. There were approximately 300,000 CETA public service employees during the third quarter of 1976 and no more than 600,000 during the third quarter of 1977 (2, p. 163). Some of these would be employed in nonprofit organizations and State government. Assuming that the average man-year cost of \$7,900 in fiscal 1976 and \$8,400 in fiscal 1977 (2, p. 238) approximates wages, netting out CETA workers and "payroll" left a non-CETA index of 106.3 and 106.8 in 1976 and 1977 respectively.

examined below by metropolitan status and degree of urbanization. In addition, geographic proximity of nonmetropolitan areas to metropolitan areas is examined for influence of location on employment levels.

Metropolitan-Nonmetropolitan Employment

Employment by local governments in metropolitan or nonmetropolitan areas is a composite of all local governments within the area.⁷ The data examined are for 1957 and 1972 since county area data for 1977 are not yet available. In 1972, local governments in the conterminous United States employed 32.5 FTE per 1,000 population, an increase of 55 percent from 1957 (Table 2). Metropolitan local governments had 7.8 percent more employees per 1,000 population than nonmetropolitan governments in 1972. In 1957, metropolitan governments employed 2.4 percent more per 1,000. Local governments in core SMSA counties employed 37.1 FTEs per 1,000 population in 1972, accounting for all of the metropolitan-nonmetropolitan differential (Table 2).⁸ The FTE employment-population ratio for the remaining categories varied from 28.9 to 31.9 with no systematic variation by size.

⁷Metropolitan-nonmetropolitan are synonyms for Standard Metropolitan Statistical Areas (SMSAs) and nonSMSAs. For this paper, the 1975 designation of SMSAs was used for both 1972 and 1957. Not all counties designated as SMSAs in 1975 would have been SMSAs in 1972 or 1957. Standardizing the SMSA designation through time permits examination of a consistent group of counties. The basic data were published in (3, 4).

⁸See Table 2, footnote a, for definitions of metropolitan status.

Table 2. Local government full-time equivalent employment relative to population and income by metropolitan status, 1957 and 1972.^a

Area	Equivalent Employment Relative to:			
	Population ^b		Real Income ^c	
	1972	1957	1972	1957
United States	32.5	21.0	9.0	8.8
Metropolitan	33.1	21.1	8.5	7.9
Core	37.1	24.0	9.1	8.3
Fringe	29.8	17.8	6.9	6.0
Medium	30.9	19.6	8.6	8.1
Lesser	30.6	19.2	9.4	9.0
Nonmetropolitan	30.7	20.6	10.6	11.9
Urbanized				
Adjacent	29.8	19.2	9.3	9.2
Nonadjacent	30.9	19.4	10.2	10.0
Less Urban				
Adjacent	30.2	20.4	10.7	12.5
Nonadjacent	31.9	21.6	11.5	13.4
Totally Rural				
Adjacent	28.9	20.9	11.3	15.2
Nonadjacent	31.9	22.9	12.2	16.5

^aCore metropolitan counties contain the primary central city of metro (SMSA) areas having at least 1 million population. Fringe counties are the suburban counties associated with core counties. Medium metropolitan counties had populations of 250,000 to 999,999 population. Small metropolitan counties had populations of less than 250,000 population. Urbanized nonmetropolitan counties had an aggregate urban population of at least 20,000 residents. Less urbanized nonmetropolitan counties had an aggregate urban population of 2,500 to 19,999. Total rural counties had no urban population. Nonmetropolitan adjacent counties were contiguous to a metropolitan area and nonadjacent counties were not contiguous to a metropolitan area. The development of this classification system is given in (1, p. 3-4). The classification was altered to a 1975 base for the purpose of this analysis. Alaska and Hawaii are not included.

^bEmployment per 1,000 population.

^cEmployment per \$1 million real personal income.

FTE employment increased about two percent relative to real income between 1957 and 1972. The employment-income ratio increased almost eight percent in metropolitan areas compared with a decrease of almost 11 percent for nonmetropolitan areas. All metropolitan classifications increased FTEs relative to income. Urbanized nonmetropolitan counties behaved similarly to SMSA counties although their increase was less. The remaining four nonmetropolitan classifications employed fewer FTEs relative to income in 1972 than in 1957. The FTE-income ratio varied inversely with metropolitan status in both 1972 and 1957 except for core metropolitan counties.

Regardless of whether employment is discussed relative to population or income, public employment was affected by geographic proximity to metropolitan areas. Nonmetropolitan areas adjacent to SMSAs had less employment than areas nonadjacent (Table 2). Although differences were sometimes small, the consistency of the relationship is important. The inference from both ratios is that perhaps more employees are required to deliver public services in counties more isolated from major population centers. Also, local governments in suburban fringe counties of greater SMSAs had considerably less employment than governments in central core counties. The relationship with location raises the question of whether services were obtained formally or informally from the core county for fringe counties or from the metropolitan area for adjacent nonmetropolitan counties. While some adjacent counties may receive some services from metropolitan areas, it is not likely that enough would be included to create the results shown here with the possible exception of fringe counties.

Unless one is willing to assume that nonadjacent counties provide more services, other tentative hypotheses for the effect of geographic location are necessary. Proximity to metropolitan areas may enable nonmetropolitan decision makers to peruse an assortment of technologies employed by more populous areas and adopt those with the higher probability of success. Closeness to service centers may also reduce costs associated with adopting new technologies. If counties adjacent to metropolitan areas obtain some services from population centers and if the more remote counties need to be more independent, one would suspect a stronger sense of community in nonadjacent areas and therefore more volunteers. If true, the differences between adjacent and nonadjacent counties would be even more exaggerated since volunteers would complement and in some cases substitute for employees.

The decrease in the employment-income ratio with size indicates only that fewer units of labor were "purchased" relative to income. Larger areas and areas adjacent to larger areas may provide services more efficiently relative to the personal income available or perhaps there was a substitution of capital for labor across county groups. If there was capital-labor substitution with metropolitan areas being more capital intensive and if volunteer labor is relatively more frequent in less populated areas (e.g., volunteer fire departments, rescue squads, etc.), what would be the level of employment-population ratios without such shifts?

Nationally, the 1972 through 1977 period was not like the previous 15 year period. While employment continued to increase through 1977, real government payroll and real income increases had a hiatus

in 1973. Disaggregation of the 1977 national composite by metropolitan status should be quite revealing. If metropolitan and urbanized nonmetropolitan local government FTEs continued to increase relative to real income, the impetus for the taxpayers' revolts becomes more meaningful than when only national data are examined.

Conclusions

Local government employment relative to population increased 70 percent between 1957 and 1977. Public employment increased faster than real per capita income but considerably less than the employment-population ratio growth. The ratio of change in employment to change in per capita income was 1.56 indicating sizeable income elasticity for one major input into public services. The income "elasticity" for local governments' public wage bill would possibly classify public services with luxury goods however. If the public wage bill is highly income elastic, the decrease in real per capita income in the mid-1970s combined with the inability to adjust consumption of public services and perceive compensation for the adjustment could lead to the tax revolts occurring in 1978. The average payroll per FTE employee decreased from 1972 through 1977 inferring local governmental belt tightening prior to the tax revolts.

While all metropolitan status categories increased employment relative to population, metropolitan local governments had more employment relative to population than nonmetropolitan areas. Core metropolitan counties accounted for most of the difference in

employment-population ratios. All metropolitan counties experienced an increase in employment relative to income while four of the six nonmetropolitan county classifications experienced a decrease in employment relative to income. Nonmetropolitan counties adjacent to metropolitan centers had fewer employees relative to income and population than comparable counties not adjacent to metropolitan centers. Perhaps adjacent counties provide fewer services, obtain some services from the metropolitan area, or use more capital intensive technology. The consistency of the geographic proximity observation indicates a definitive answer for the relationship may be quite useful. The question is whether similar relationships are observed for 1977 following a period, at least nationally, quite dissimilar to the 1957-72 period.

Local government employment is an important subject because local governments are a major source of employment and their employees are a major input into the production of public goods. Yet, relatively little research has been conducted on public employment. A Current Research Information System search over one year ago did not reveal one project in public finance, community services or labor that explicitly stated public employment would be included in the analysis. The media veils of public employment - at all levels of government - are not necessarily the most desirable, and public finance, tax revolts, and related issues will not likely slip away into an abyss. Public employees are visible. Wages, pensions, benefits, unionism, and so forth are open to public debate. Economic analysts could use their bag of tools to perhaps shed light where

mostly heat currently exists. Macro approaches may provide general tendencies but with the multitude of governmental organizations, potential size economies, and production functions with variable capital-labor ratios, the micro-firm level approach may yield the more optimal results. This vignette on local government employment raises questions rather than provides answers. The tentative explanations offered are hypotheses that it is hoped will be tested in the future.

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